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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/541,690	04/03/2000	Raphael Duval	PET-1638-DI	4031

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EXAMINER

WILSON, DONALD R

ART UNIT	PAPER NUMBER
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1713

DATE MAILED: 09/05/2002

14

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/541,690

Applicant(s)

DUVAL ET AL.

Examiner

D. R. Wilson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 May 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 18-59 is/are pending in the application.
- 4a) Of the above claim(s) 1-6, 8-10, 21, 25, 28-48, 50-52 and 55-57 is/are withdrawn from consideration.
- 5) ☒ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7, 18-20, 22-24, 26, 27, 49, 53, 54, 58 and 59 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 09/039,266.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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DETAILED ACTION***Response to Restriction Requirement***

1. Applicant's election with traverse of the inventions of Group IX, now Claims 7, 18, 19-27, 46-47, 49, 53-55 and 58-59 in Paper No. 12 is acknowledged. With applicant's amendment to the Group X claims, they have been rejoined with the Group IX claims. The traversal is on the ground(s) that the Examiner has not established that examining all of the claims would be a serious burden, "--- especially since many of the groups are indicated to belong to the same subclass. This is not found persuasive because the Examiner has set forth reasons why the groups of claims are to distinct subject matter, for which applicant has provided no counter arguments as to the basis for the distinctness. As to the original classification being in the same subclass, this is only one of the factors to be considered. Distinctly different claims can also acquire a separate status in the art because of their recognized divergent subject matter, and searching is rarely limited to a single subclass. Additionally, the entire prosecution of the application is to be considered and not just the initial search.

2. The requirement is still deemed proper and is therefore made FINAL. Claims 1-6, 8-10, 28-45, 48, 50-52 and 56¹-57 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention.

Response to Election of Species Requirement

3. Applicant's election with traverse of a specie as shown on an attached page, alleged to result from the syntheses in successive steps of Examples 2b), 3a), 3b2) and 4a) of in the same Paper No. 12 is acknowledged. However, it is not seen that there is any evidence that the cited Examples provides the structure shown on the attached page, or that the claims as written represent either the shown structure or the product resulting from the disclosed examples. This will be discussed further in the rejection under 35 U.S.C. § 112, first paragraph. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without

¹ Claim 56 was mistakenly omitted from the claims listed for restriction. However, it is clear that Claim 56 belongs to the Group X inventions. If amended to recite a "cross-linked chiral compound", as applicant has done for the other Group X claims, it will be rejoined with the Group IX inventions.

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traverse (MPEP § 818.03(a)). Claims 21, 25, 46-47 and 55 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected specie of the invention.

Response to Amendment

4. Applicant's amendment filed 5/13/02, has been fully considered with the following results. The amendment is not deemed to be persuasive in overcoming the outstanding rejection under 35 U.S.C. § 112, first paragraph, which is maintained as is discussed below. Only a portion of the bases of rejections under 35 U.S.C. § 112, second paragraph, were overcome by the amendment, a major portion of which are maintained as is discussed below.

Previously Cited Statutes

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office Action.

Claim Rejections - 35 USC § 112, First Paragraph

6. Claims 7, 18, 19-20, 22-24, 26-27, 49, 53-54 and 58-59 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification provides no teaching of how to make the cross-linked compounds of the instant claims. Specifically there is no teaching of how to make compounds of general formula (I) wherein (i) the chiral units are linked directly to one another, and (ii) multiple units of "LINK A" are connected through peroxy linkages, i.e. q, q¹, q² or n greater than 1. The basis of this rejection was stated in Detailed Action § 21 of the previous Office Action. It is further not seen that the specification enables the elected specie as set forth in appended page of applicant's amendment. For example, it does not seem reasonable to expect, nor is any evidence provided, that in the reaction of a mixture of isocyanates with cellulose (Example 2b), that the 4-allyloxyphenylisocyanate reacts exclusively at the 6-positions while the 3,5-dimethylphenylisocyanate reacts at the remaining positions. There also appears to be no basis that the process as described results in two allyl groups being reductively dimerized to form a hexamethylene group in the presence of a

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benzoyl peroxide catalyst. The Examiner acknowledges that cross-linking will occur by free radical addition reaction through the allyl groups but sees no basis for the chemical structures of either the elected specie or of the claims. Applicant is invited to provide evidence of such a reaction, and to further explain the source of the two additional hydrogen atoms in the dimerization

7. Applicant traverses the rejection arguing that the specification provides several examples, and particularly the elected species of the invention, concluding that "[a]ccordingly, the specification therefore teaches how to make polymers of general formula (I), wherein the chiral units are linked directly to one another, and (ii) multiple units of 'LINK A' are connected through peroxy linkages, i.e. q, q1, q2 or n greater than 1." This is not deemed to be persuasive because the limitations on which applicant relies are not stated in the claims. It is the claims that define the claimed invention, and it is claims, not specifications that are anticipated or unpatentable. *Constant v. Advanced Micro-Devices Inc.*, 7 USPQ2d 1064.

Claims may be interpreted in the light of the specification for the purpose of defining a given term under 35 USC 112 but it must be remembered that during patent examination the pending claims must be interpreted as broadly as their terms reasonably allow. *In re Zletz*, 13 USPQ 1320. Generally, one does not read into claims in pending applications limitations from the specification. *In re Winkhaus*, 188 USPQ 129; *In re Prater*, 162 USPQ 541.

8. General formula (I) shows repeat units of a chiral unit connected to a Link A which may be linked with up to 19 additional units of LINK A which is then linked with another chiral unit. This may not be what applicant intended the formula to show, but the Examiner must deal with the claims as written. As discussed above, it is also not seen that there is any teaching where "L" in ^{LINK}LINK A is a single bond as applicant has described in the elected specie, and is provided for in the claims. Applicant is also invited to provide evidence and/or rationale for multiple units of 'LINK A' being connected through peroxy linkages by any process taught in the specification. It is also not seen how the claims read on the elected species because both independent Claims 18 and 19 exclude reactions wherein the alkenyloxyaryl compound is 4-allyloxyphenyl-isocyanate.

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Claim Rejections - 35 USC § 112, Second Paragraph

9. Claims 7, 18, 19-20, 22-24, 26-27 49, 53-54 and 58-59 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

10. The languages of Claims 18 and 19 are indefinite for the following reasons:

a. The languages are incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: the recited process steps in the product-by-product language do not lead directly to the structure of either "general formula (I)" of Claim 18, or the "general formula" of Claim 19. The basis of this rejection was stated in Detailed Action § 24(a) of the previous Office Action. Applicant traverses the presenting as the only argument the allegation "--- because the exemplified species has the structure of general formula (I)" and is read upon by claim 18." This is not deemed to be persuasive for several reasons. The allegation is interesting as Claim 18 (and Claim 19) specifically exclude reactions with 4-allyloxyphenylisocyanate, which is the linking compound used in the exemplified specie (see Example 2b). Further, the argument does not address the merits of the stated rejection. It remains that the language of Claims 18 and 19 is product-by-process, and the only stated process step is a "--- reaction of at least one hydrogen of an alcohol, amine or thio function of at least one chiral unit of a product with at least one group Q of an alkenyloxyaryl or alkenylaryloxyaryl compound ---". This single process step does not result in the cross-linked chiral compound of General Formula I. It should also be noted that if the claim is supposed to reflect the examples, then it is at least one alcohol, amine or thiol function which reacts, not just the hydrogen of the group, and further it is not clear what is meant by "of a product".

b. The claims now speak to a cross-linked chiral compound, yet the structures of "general formula (I)" of Claim 18, and the "general formula" of Claim 19, are not cross-linked and if "s" or "s1" are equal to "1" they are clearly not polymers. The basis of this rejection was stated in Detailed Action § 24(b) of the previous Office Action. Applicant traverses the rejection asserting

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that "---the chiral units are cross-linked by the link A." This is not deemed to be persuasive because the structures as shown only indicate the presence of "Link A", q, or q¹ times between two chiral units, and that the chiral units are joined together s or s¹ times.

c. It is not seen how "R", or "X" can be a hydroxyl group, or "Ar" can be substituted with for instance hydroxyl, amino or thiol groups, as such a group would by definition be reactive with "Q". Further, vinyl alcohols are not known to be stable species. The basis of this rejection was stated in Detailed Action § 24(e), 24(g) and 24(h) of the previous Office Action. Applicant submits the assertions by the Examiner are improper because "[t]he Office has failed to provide any evidence or reference why these terms are indefinite." This is not deemed to be persuasive because it is not the terms themselves which are indefinite, both their presence in the claim which makes the claim indefinite. That hydroxyl, amino and thiol groups react with Q groups is evident in the claim itself (see the first several lines). If applicant has any evidence that vinyl alcohols exist as opposed to the corresponding aldehydes (e.g., acetaldehyde as opposed to vinyl alcohol) they are invited to submit such evidence.

d. "X" and "Ar" are difunctional and thus can not be monovalent alkyl aryl or polyaryl groups. The basis of this rejection was stated in Detailed Action § 24(g) and 24 (h) of the previous Office Action. Applicant amended the definitions concerning the description of the alkenyloxyaryl or alkenylaryloxyaryl compounds, but did not similarly amend the definitions "X" and "Ar" following the general formulas.

e. The language "optionally substituted", following the last members of Markush groups is unclear because it cannot be told whether it is to apply to just the last member or to all members of the group. The basis of this rejection was stated in Detailed Action § 24(f) as applied to the previously language "may be substituted". Applicant did not traverse this aspect of the prior rejection.

f. As "K" is a single bond, silane or siloxane group, it is not seen how it further contains an "R" group. The basis of this rejection was stated in Detailed Action § 24(i) of the previous Office

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Action. Applicant amended the claim to state "wherein if K is a single bond, R is not present."

However, it is still not clear how the silane or siloxane further contains an "R" group.

g. The "chiral unit" may be a unit derived from a chiral compound but it is no longer a chiral compound. The basis of this rejection was stated in Detailed Action § 24(j) of the previous Office Action. Applicant traverses the rejection arguing that they are entitled to be their own lexicographer, noting that the terms cannot be used in ways that are contrary to accepted meanings in the art. The Examiner submits that calling a segment of a cross-linked compound a compound, is contrary to the accepted meaning of compound.

h. Ar, R and X in the links of the general formulas are different than in the initial alkenyloxyaryl or alkenylaryloxyaryl compounds, which is not seen to be possible. The basis of this rejection was stated in Detailed Action § 24(k) of the previous Office Action. Applicant traverses the rejection arguing that Ar, R and X have not changed in Link A from those of the bifunctional compound. This argument cannot be sustained because the definitions of Ar, R and X of Link A, which follow the general formulas, are different than those of the alkenyloxyaryl or alkenylaryloxyaryl compounds used to form the link.

11. Claim 20 is indefinite because it is unclear as to what the extra bonds on the chiral units are attached, and in the case of the first three formulas exceeds the number of linking bonds shown in the parent claim. The basis of this rejection was stated in Detailed Action § 25 of the previous Office Action. Applicant traverses the rejection arguing that it is clear in the formula of claim 18 and the elected species, that the extra bonds can be joined to Link B or to another chiral unit. This is not deemed to be persuasive because applicant has not, and cannot explain why this is clear. Further, the limitations upon which applicant relies must be stated in the claims. It is the claims that define the claimed invention, and it is claims, not specifications that are anticipated or unpatentable. *Constant v. Advanced Micro-Devices Inc.*, 7 USPQ2d 1064.

Claims may be interpreted in the light of the specification for the purpose of defining a given term under 35 USC 112 but it must be remembered that during patent examination the pending claims must be interpreted as broadly as their terms reasonably allow. *In re Zletz*, 13 USPQ 1320. Generally, one does not read into claims in pending applications limitations from the specification. *In re Winkhaus*, 188 USPQ 129; *In re Prater*, 162 USPQ 541.

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12. Claims 22 and 26 are indefinite because of the word obtainable, i.e., is it obtained or not. This rejection could be overcome by substituting "obtained" for obtainable".

13. Claim 26 is further indefinite because the metes and bounds of "by polymerization, generally by cross-linking", cannot be determined.

Objection to Drawings

14. The specification includes drawings on pages 26-34 of the specification which are not in conformance with the requirements of 37 C.F.R. § 1.84. A reference to and brief description of the drawing(s) as set forth in 37 CFR 1.74 is also required.

Objection to Disclosure - Informalities

15. The disclosure is objected to because of the following informalities: What is apparently supposed to be a heading for Examples 2 and 4 on pages 23 and 25 of the specification are missing, adding to the confusion in interpreting the disclosure. Appropriate correction is required.

Other Comments

16. It remains that the lack of clarity of what is being claimed makes examination of the claims difficult if not impossible.

Action Is Final

17. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

18. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

19. This application contains claims 1-6, 8-10, 28-45, 48, 50-52 and 57 drawn to an invention nonelected with traverse in Paper No. 12. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

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Future Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to D. R. Wilson whose telephone number is 703-308-2398.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on 703-308-2450. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-5408 for regular communications and 703-305-3599 for After Final communications. The unofficial direct fax phone number to the Examiner's desk is 703-872-9029.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308-2351.

A handwritten signature in black ink, appearing to read 'D. R. Wilson', with a long horizontal line extending to the right.

D. R. Wilson
Primary Examiner
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